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(54) PADDED SURGICAL CLAMP

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No. OF CLAIMS 5

ABSTRACT OF THE DISCLOSURE

A padded surgical clamping device used for temporary claspings, ducts or blood vessels. It comprises of a standard clamping device provided with a soft pad on each jaw of the clamp. The pad may be permanently attached, removable, or, replaceable by other pads of different levels of hardness or with different textures on the clamping surface of the pad depending on the size or sensitivity of the tissue to be clamped.

DESCRIPTION OF PADDED VASCULAR CLAMP

This invention relates to clamps used for clamping blood vessels, body channels or ducts during surgical procedures. The type of surgical clamp which will open when pressure is applied to the grip of the clamp and will close when the pressure on the grip is released is well known.

In the practice of surgery, the bulldog clamp and some other clamps which are modifications of the bulldog clamp are used for interrupting the blood supply of the kidney during surgical procedures such as nephrolithotomy, clamping of vessels during kidney transplant; for the creation of arterio-venous fistula; the insertion of arterio-venous shunts and many other surgical operations. Surgical clamps are different in size and shape depending on the surgical procedure to be followed. They range from small neuro-surgical clips to large clamps for temporarily interrupting the blood supply through the aorta. All such clamps are made from metal with serrated jaws to provide a firm grip on the tissue. Such devices have the disadvantage of damaging tissue and the walls of the arteries and veins causing unnecessary complications such as the formation of clots where the clamp has been applied to the tissue. It is, therefore, the object of the present invention to provide a surgical clamp which prevents damage to tissue while being applied to the tissue. This may be achieved by providing a padded surgical clamp equipped with a pad on each jaw. The pad is composed of a soft material not damaging to the tissue, the said pad being provided with two cavities. One of the said cavities is shaped in

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such a manner that it will tightly receive the serrated edges of the clamp jaw when placed over the jaw of the vascular clamp. The other cavity of the said pad may be filled with air, gas or a liquid and then hermetically sealed, providing a cushioned pad capable of squeezing vessels firmly, but without damage. Different textures may be provided on the clamping surface of the pad to prevent slipping between the clamping surfaces of the surgical clamp and the tissue. This invention may be
10 used in conjunction with any surgical instruments that function as clamping and clasping devices.

The invention will become more apparent by reference to the following detailed description taken in conjunction with the drawings in which:

Fig. 1 is a front view of a complete padded surgical clamp according to the invention.

Fig. 2 is a top view of a complete padded surgical clamp.

20 Fig. 3 is an enlarged cross-sectional top view of the clamp jaw along section A - A.

Fig. 4 is an enlarged cross-sectional side view of the clamp jaw along section B - B.

Fig. 5 is an enlarged bottom view of the clamp jaw.

Figure 6 is an enlarged cross-sectional side view of the clamp jaw along section C - C.

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In fig. 1 clamp tong 1 and clamp tong 2 are permanently attached at 3. When pressure is applied to clamp tongs 1 and 2, the jaws of the clamp will open. The art of

the clamp operation is in use for many applications and is not part of the invention. Pad 4, being enlarged in fig. 4 comprises of a wall 5 providing cavities 6 and 8. Cavity 8 is filled with air, gas or liquid or solid and then hermetically sealed at 9. Texture 10 may be provided to the clamping surface of pad 4 to provide anti-slip between pad surface and tissue.

The embodiments of the invention in which an exclusive property or privileges are claimed are defined as follows:

Claim 1. A surgical clamp having two clamping jaws and comprising a soft pad placed over each said jaw, the pad including two cavities, one of said cavities being tightly located over each said jaw, the other cavity being filled with a fluid or solid and hermetically sealed, each pad having a clamping surface.

Claim 2. A surgical clamp as defined in claim 1 wherein said one cavity engages serrations in said clamp jaw.

Claim 3. A surgical clamp as defined in claim 1 or claim 2 wherein said pad is attached to said clamp jaw by adhesion, fusion or crimping.

Claim 4. A surgical clamp as defined in claims 1 or 2 wherein said surface is smooth.

Claim 5. A surgical clamp as defined in claims 1 or 2 wherein said surface is roughened.

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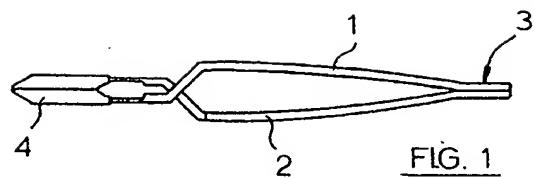


FIG. 1

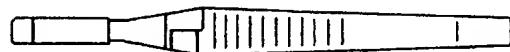


FIG. 2

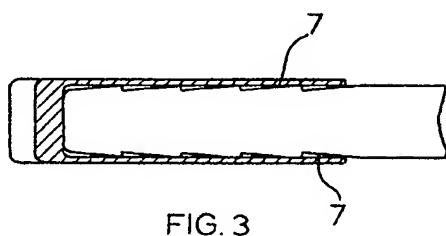


FIG. 3



FIG. 6

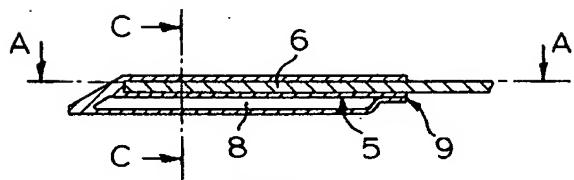


FIG. 4

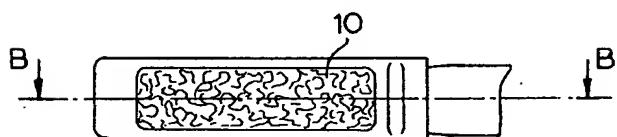


FIG. 5

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